

REMARKS

Claims 1-23 are in the application. Entrance of this Preliminary Amendment, reconsideration and reexamination are each respectfully requested.

1. Rejections Under 35 U.S.C. §102(e)

In the predecessor application claims 1-23 were rejected under 35 U.S.C. §102(e) as being anticipated by the reference art patent no. 6,411,204 to Bloomfield ["Bloomfield"].

In his Amendment of April 4, 2005, Applicant argued that Bloomfield either teaches or suggests Applicant's claimed "second sensing any presence of brake light emissions to the forward of the vehicle... [so as to] activat[e]... the brake lights of the vehicle during the persistence of... brake light emissions of another vehicle as [is] determined by the second sensing."  
(Claim 1)

(Applicant's independent claim 9 specifies likewise. Applicant's independent claim 20 -- the rejection of which has never been adequately expounded -- is directed to the system of Applicant's invention that supports platooning.)

This quoted claim language is unequivocal. Applicant's claimed method **will** activate the brake lights of the subject vehicle upon **two** explicitly specified conditions, and for the persistence of either of these conditions. Namely, 'the brake lights of the subject vehicle [will be activated] during the persistence of either the application of the brakes of the subject vehicle... or during brake light emissions of another vehicle....' (The language of independent claims 9 and 20 is likewise unequivocal.)

The Examiner of the predecessor application continued to find patentability of Applicant's invention so claimed be negated under 35 U.S.C. section 102(e) in consideration of the

reference art of Bloomfield at column 4, lines 5-45. This is the case even though Bloomfield teaches to light the brake lights of the subject vehicle **only** during acceleration or de-acceleration. It is also, and further, contemplated by Bloomfield at column 3, lines 24-29 that the activation of the brake lights might be conditioned on any of proximity, air bag, speed, or an anti-lock braking system or the like.

Applicant claims **no** such conditions. Applicant's claimed method activates the brake lights, and maintains them activated, upon, and for the persistence of -- other than normal application of the brake pedal -- but one event only: the sensing of brake lights to the forward.

Applicant's claimed method of brake light activation is **not** contingent upon acceleration/de-acceleration. Applicant's claimed method of brake light activation is **not** contingent upon proximity. Applicant's claimed method of brake light activation is **not** contingent upon air bag activation. Applicant's claimed method of brake light activation is **not** contingent upon speed. Applicant's claimed method of brake light activation is **not** contingent upon any anti-lock braking system.

The Examiner of the predecessor application seems determined to force Applicant to put some of all of these limitations -- **negative** limitations -- into Applicant's claims. Applicant protests. Negative limitations should not be required to establish patentability. See MPEP section 3173.05(I).

Nonetheless that Applicant still finds the (predecessor application) Examiner's rejection to be unsound, Applicant does not have time to wait for the PTO appeals process on this already-old patent application filed in July, 2000.

Accordingly, Applicant amends all his independent claims 1, 9 and 20 to uniformly claim that, in Applicant's claimed method and system, the brake lights of the subject vehicle are activated

(and maintained during the persistence of sensed brake lights to the forward) 'regardless of any of (1) acceleration or de-acceleration or speed of the subject vehicle, (2) proximity of the vehicle to the forward, or (3) status of any air bag or anti-lock braking system of the subject vehicle.'

Applicant should **not** have to so specify, Applicant should **not** have to so claim his invention. Instead, Applicant's claims as originally presented **never** made actuation of the brake lights contingent upon anything save (1) activation of the brakes of the subject vehicle **or** (2) sensing of brake lights to the forward.

(Note the conjunction 'or': Applicant's invention will apply the brake lights of the subject vehicle even if its own brakes are **not** applied. And even if it is not accelerating. And even if its speed is normal. And even if there is no activity with the air bag, or with the anti-lock braking system. Etc., etc.)

Instead, it is the reference art of Bloomfield -- cited by the Examiner of the predecessor application as a section 102(e) bar to the patentability of Applicant's invention (then claimed) -- that teaches or suggests only to apply the brake lights **conditionally**. Bloomfield neither teaches nor suggests application of brake lights contingent on **only** the sensing of brake lights to the forward.

Namely, Bloomfield contemplates activation of brake lights only upon acceleration/de-acceleration, or air bag, or speed, or an anti-lock braking system or the like.

This is distinctly opposite to Applicant's claimed invention. Current amendments to Applicant's independent claims hopefully make this difference increasingly clear.

Claims 8 and 21 are amended to correct typographical errors, only.

## 2. Summary

The present preliminary amendment and remarks have overcome

and discussed each of the bases for the rejections presented in the Office Action. No new subject matter has been introduced by the present amendment.

In consideration of the preceding amendment and accompanying remarks, the present application is deemed in condition for allowance. The timely action of the Examiner to that end is earnestly solicited.

Applicant's undersigned attorney is at the Examiner's disposal should the Examiner wish to discuss any matter which might expedite prosecution of this case.

Sincerely yours,

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[ ] Filed Under 37 CFR §1.34(a)

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**CERTIFICATION UNDER 37 CFR 1.10**

I hereby certify that this AMENDMENT and the documents referred to as attached therein are being deposited with the United States Postal Service as first class mail, postage prepaid, addressed to Mail Stop RCE, Amendment - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date written below.

July 5, 2005  
Date

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## CLAIMS (AS PRELIMINARILY AMENDED)

1. (Currently Amended) For use with a subject vehicle having both brakes and brake lights, a method of activating the brake lights of the subject vehicle comprising:
  - first sensing any application of the brakes of the subject vehicle;
  - second sensing any presence of brake light emissions of another vehicle to the forward of the subject vehicle; and
  - always activating the brake lights of the subject vehicle during the persistence of either an application of the brakes of the subject vehicle as is determined by the first sensing, or during brake light emissions of another vehicle as is determined by the second sensing regardless of any of (1) acceleration or de-acceleration or speed of the subject vehicle, (2) proximity of the vehicle to the forward, or (3) status of any airbag or anti-lock braking system of the subject vehicle.
2. (Original) The method of activating the brake lights of the subject vehicle according to claim 1 wherein the second sensing comprises:
  - imaging with a color camera a multi-color image to the forward of the subject vehicle;
  - storing in a memory the multi-color image; and
  - interpreting with a microprocessor a current multicolored image resulting from the imaging with a historical multicolored image resulting from the storing in order to recognize changes in the image indicative of the activation of one or more brake lights to the forward of the subject vehicle.
3. (Original) The method of activating the brake lights of the subject vehicle according to claim 2
  - wherein the interpreting with the microprocessor, and the comparison of the current image with the stored image, serves to detect any significant incipient increase in a red color, accompanied by only insignificant changes in green and in blue colors, of pixels that are (i) of proper individual areas (ii) at a proper two locations (iii) properly spaced apart in separation and (iv) properly in a substantially horizontal direction so as to reasonably represent light emission from an activated pair of brake lights to the forward of the subject vehicle, to so be an activation of a pair of brake lights to the forward of the subject vehicle.

4. (Original) The method of activating the brake lights of the subject vehicle according to claim 3

wherein the interpreting with the microprocessor is of further of angles that the red color pixels occupy relative to the subject vehicle, thus to further decide whether detected brake lights are in lane to the forward of the subject vehicle or are not in lane but are instead to either side of the subject vehicle.

5. (Original) The method of activating the brake lights of the subject vehicle according to claim 2

wherein the interpreting with the microprocessor, and the comparison of the current image with the stored image, transpires by a point accumulation process with positive points, meaning that one or more brake lights is deemed to likely have been detected when sufficient points are accumulated from assessment of at least two of the following factors

(1) a significant incipient increase in a red color, accompanied by only insignificant changes in green and in blue colors,

(2) one or more individual areas of detected illumination increase as are appropriately sized to be an actual image of one or more real brake lights,

(3) one or more individual areas of detected illumination increase as are appropriately located to be an actual image of one or more real brake lights,

(4) two individual areas of detected illumination occurring at the same time as would be an actual image of a real pair of brake lights,

(5) two individual areas of detected illumination increase as are appropriately spaced apart in separation to be an actual image of a real pair of brake lights,

(6) two individual areas of detected illumination increase as are appropriately spaced apart in a substantially horizontal direction so as to be an actual image of a real pair of brake lights, and

(7) two individual areas of detected illumination as are approximately of equal intensity as would be an actual image of a real pair of brake lights.

6. (Original) The method of activating the brake lights of the subject vehicle according to

claim 5

wherein the point accumulation process is further in consideration of the following factor:

(8) an angle or angles at which one or more areas of illumination increase are detected as would be appropriate to a location or locations of illumination increase on an actual image of one or more real brake lights to the forward of the subject vehicle.

7. (Original) The method of activating the brake lights of the subject vehicle according to claim 1 further comprising:

alerting a driver of the subject vehicle upon brake light emissions of another vehicle as is determined by the second sensing.

8. (Currently Amended) The method of activating the brake lights of the subject vehicle according to claim 1 ~~further comprising:~~

wherein the activating of the brake lights of the subject vehicle during the persistence of brake light emissions of another vehicle as is determined by the second sensing commences after a predetermined time delay from initially so second sensing the brake light emissions of another vehicle.

9. (Currently Amended) A system for activating the brake lights and/or brakes of a subject vehicle comprising:

a first sensor producing a first signal upon any application of the brakes of the subject vehicle;

a second sensor producing a second signal upon any presence of brake light emissions of another vehicle to the forward of the subject vehicle; and

an activator of the brake lights and/or brakes of the subject vehicle during the persistence of either the first signal or the second signal regardless of any of (1) acceleration or deceleration or speed of the subject vehicle, (2) proximity of the vehicle to the forward, or (3) status of any airbag or anti-lock braking system of the subject vehicle.

10. (Original) The system according to claim 9 wherein the second sensor comprises:
  - a color camera imaging a multi-color image to the forward of the subject vehicle;
  - a memory storing the multi-color image; and
  - a microprocessor interpreting a current multicolored image resulting from the imaging with a historical multicolored image resulting from the storing in order to recognize the activation of 20 one or more brake lights to the forward of the subject vehicle.
11. (Original) The system according to claim 10 wherein the color camera comprises:
  - a CCD.
12. (Original) The system according to claim 10 wherein the color camera comprises:
  - two spaced apart CCDs;
  - wherein differing angles to each CCD of a red light to the forward of the subject vehicle is indicative of the distance of the red light.
13. (Original) The system according to claim 9 wherein the second sensor comprises:
  - a red light optical signal sensor producing a red light signal responsive to intensity of red light to the forward of the subject vehicle;
  - an ambient light sensor producing an ambient light signal response to intensity of ambient light to the forward of the subject vehicle; and
  - a threshold difference detector, receiving the red light signal and the ambient light signal, for producing the second signal upon, and for the duration of, such times as a magnitude of the red light signal is greater than a predetermined ratio to a magnitude of the ambient light signal.
14. (Original) The system according to claim 13
  - wherein the predetermined ratio of the threshold difference detector is adjustable.
15. (Original) The system according to claim 9
  - wherein the second sensor is producing a pulsed second signal; and



wherein upon such times as only the pulsed second signal is being produced, the activator produces flashing brake lights in the subject vehicle.

16. (Original) The system according to claim 15 further comprising:

a means for setting the rate at which the pulsed second signal is produced.

17. (Original) The system according to claim 16 wherein the means for setting the rate comprises:

a proximity sensor for sensing an obstacle including another vehicle including a vehicle producing the brake light emissions to the forward of the subject vehicle; and

a rate-adjusting means responsive to the proximity sensor for setting a higher rate when the proximity sensor indicates an obstacle relatively closer to the forward and a lower rate when the proximity sensor indicates an obstacle relatively further to the forward.

18. (Original) The system according to claim 9

wherein coaction between the activator of the brake lights and/or brakes of the subject vehicle during the persistence of the second signal, and the second sensor producing a second signal upon any presence of brake light emissions of another vehicle to the forward of the subject vehicle, makes that activating of the brake lights and/or brakes of the subject vehicle occurs only after a predetermined delay, it being of no consequence whether this predetermined delay is considered to be in the production of the second signal by the second sensor, or in the activator responsively to this second signal, or in both the second sensor and the activator.

19. (Original) The system according to claim 9 further comprising:

an alarm,, responsive to the second signal, for alerting a driver of the subject vehicle to any presence of brake light emissions of another vehicle to the forward of the subject vehicle.

20. (Currently Amended) A system for propagating brake lights between vehicles upon a highway comprising:

a sensor in a vehicle for sensing any application of brake lights to the forward of the

vehicle; and

an activator of always activating the brake lights of the vehicle responsive to the sensed application of brake lights to the forward regardless of any of (1) acceleration or de-acceleration or speed of the subject vehicle, (2) proximity of the vehicle to the forward, or (3) status of any airbag or anti-lock braking system of the subject vehicle;

wherein brake lights are always propagated from the forward of the vehicle to the rearward of the same vehicle.

21. (Currently Amended) The system according to claim 20

wherein the sensor and the activator are present in each of an unbroken succession of vehicles;

22. (Original) The system according to claim 20 wherein the sensor comprises:

a color camera imaging a multi-color image to the forward of the vehicle;  
a memory storing the multi-color image; and

a microprocessor interpreting a current multicolored image resulting from the imaging with a historical multicolored image resulting from the storing in order to recognize the activation of one or more brake lights to the forward of the vehicle.

23. (Original) The system according to claim 22 wherein the color camera comprises:  
one or more CCDs.